

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY (Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 9634WO/CF/LA	FOR FURTHER ACTION See Form PCT/IPEA/416	
International application No. PCT/SE2005/000176	International filing date (<i>day/month/year</i>) 07-02-2005	Priority date (<i>day/month/year</i>) 06-02-2004
International Patent Classification (IPC) or national classification and IPC See Supplemental Box		
Applicant ABB AB et al		

1.	This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2.	This REPORT consists of a total of <u> 5 </u> sheets, including this cover sheet.
3.	This report is also accompanied by ANNEXES, comprising: <div style="margin-left: 20px;"> a. <input type="checkbox"/> (<i>sent to the applicant and to the International Bureau</i>) a total of _____ sheets, as follows: <div style="margin-left: 20px;"> <input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions). <input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box. </div> </div> <div style="margin-left: 20px;"> b. <input type="checkbox"/> (<i>sent to the International Bureau only</i>) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in electronic form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions). </div>
4.	This report contains indications relating to the following items: <div style="margin-left: 20px;"> <input checked="" type="checkbox"/> Box No. I Basis of the report <input type="checkbox"/> Box No. II Priority <input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability <input type="checkbox"/> Box No. IV Lack of unity of invention <input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement <input type="checkbox"/> Box No. VI Certain documents cited <input type="checkbox"/> Box No. VII Certain defects in the international application <input type="checkbox"/> Box No. VIII Certain observations on the international application </div>

Date of submission of the demand 06-09-2005	Date of completion of this report 13-04-2006
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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/SE2005/000176

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of: **Cover sheet**

International patent classification (IPC)

B25J 9/16 (2006.01)

B23K 11/24 (2006.01)

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/SE2005/000176

Box No. I Basis of the report

1. With regard to the language, this report is based on:

- ☒ the international application in the language in which it was filed
- ☐ a translation of the international application into _____,
which is the language of a translation furnished for the purposes of:
- ☐ international search (Rules 12.3(a) and 23.1(b))
- ☐ publication of the international application (Rule 12.4(a))
- ☐ international preliminary examination (Rules 55.2(a) and/or 55.3(a))

2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report):*

- ☒ the international application as originally filed/furnished
- ☐ the description:
- pages _____ as originally filed/furnished
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☐ the claims:
- pages _____ as originally filed/furnished
- pages* _____ as amended (together with any statement) under Article 19
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☐ the drawings:
- pages _____ as originally filed/furnished
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to the sequence listing (*specify*): _____

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to the sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/SE2005/000176

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	<u>1-25</u>	YES
	Claims	_____	NO
Inventive step (IS)	Claims	<u>7-20</u>	YES
	Claims	<u>1-6, 21-25</u>	NO
Industrial applicability (IA)	Claims	<u>1-25</u>	YES
	Claims	_____	NO

2. Citations and explanations (Rule 70.7)

Reference is made to the following document:

D1: US 6356807 B1

The invention concerns a method for controlling an industrial robot and solves the problem of correcting distance errors between programmed positions and corresponding actual positions.

Document D1 is considered to represent the closest prior art. D1 describes an industrial robot, e.g. for spot welding, and a method for determining a contact point between a tool tip and a surface of a work piece. The tool tip is placed at a programmed position at a distance from the surface and is moved towards the surface. A collision point is detected and positioned when the motor torque has increased to a predetermined value (see column 3, lines 4-21 and column 5, line 49- column 8, line 5).

The invention according to independent claims 1, 6 and 21-23 differs from the method in D1 in that the position of the contact point is calculated by adding to the programmed position the distance the tool tip is moved to the contact point. Due to these features an exact determination of the contact point between the tool tip and the work piece is achieved.

Consequently, with the background of D1, the problem is to design an alternative method for calculating the position of the contact point between the tool tip and the work piece.

.../...

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of: Box V

The person skilled in the art searches for alternative solutions of the above mentioned problem of calculating a position. It is therefore considered obvious to modify the closest prior art and thus arrive at the invention according to claims 1, 6 and 21-23 especially as no unexpected effect is obtained. Accordingly, the invention claimed in claims 1, 6 and 21-23 does not fulfil the requirement of inventive step.

Dependent claims 2-5, 24 and 25 merely involve details which are known from D1 or come within the scope of the customary practice followed by persons skilled in the art. Consequently, the subject-matter of claims 2-5, 24 and 25 also lacks an inventive step.

To sum up, the invention according to claims 1-25 is novel (N) but the invention according to claims 1-6, 21-25 lacks an inventive step (IS). All claims have industrial applicability (IA).